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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,902	12/15/2005	Johan Anton Eduard Rosenberg	9342-26	7031

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EXAMINER	
LE, TUNG X	

ART UNIT	PAPER NUMBER
2821	

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/517,902	ROSENBERG ET AL.	
	Examiner	Art Unit	
	Tung X. Le	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *amendment received 09/22/2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 11-16* is/are rejected.

7)☒ Claim(s) *10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Hoanganh Le
Primary Examiner

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed on September 22, 2006 is acknowledged. Claims 15-16 are newly added. Thus, claims 1-16 are presented in the instant application.

Claim Rejections - 35 USC § 102

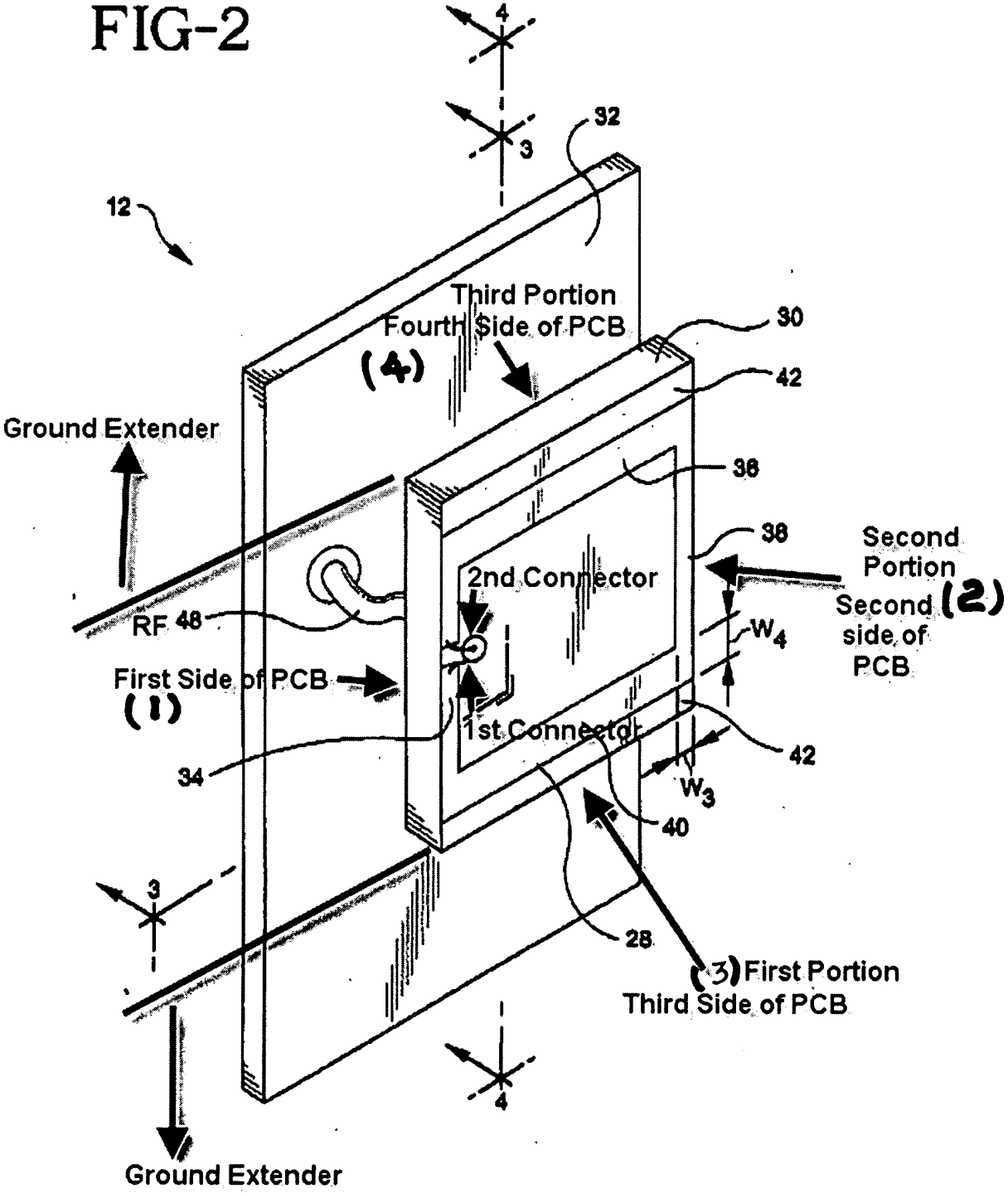
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-9 and 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Johson (U.S. 6,236,368 B1).

Regarding claim 1, Johson discloses in figures 1-2 an antenna for a portable device (10, 12) comprising an antenna loop (28) of conducting material (column 2, lines 61-67) having first and second ends (figure 2 shown the first and second connectors) connected to radio frequency (RF) circuit (48) and a ground plane (32) of a printed circuit board (20) (column 3, lines 60-65), respectively, the antenna loop (28) being positioned opposite the ground plane (figure 2); and a ground plane extender (figure 2 in the page 2 shown the ground extenders at the first side of the PCB) positioned at a first side (figure 2 in the page 2) of the printed circuit board and in a longitudinal extension of the ground plane (32).

FIG-2


4
3
32
12
Third Portion
Fourth Side of PCB
(4)
30
42
Ground Extender
36
38
Second
Portion
Second side of
PCB
(2)
2nd Connector
RF 48
W_4
First Side of PCB
(1)
1st Connector
42
34
W_3
40
3
28
(3) First Portion
Third Side of PCB
4
Ground Extender

Regarding claim 2, Johson discloses in figures 1-2 and 4 that the antenna loop (28) comprises first and second connector (figure 2) provided at a second side (2) of the printed circuit board (20) configured to connect the first and second ends (1st and 2nd connectors) of the antenna loop (28) to the RF circuitry (48) and the ground plane (32) of the printed circuit board (20), respectively.

Regarding claim 3, Johson discloses in figure 2 (page 2) that the antenna loop (28) further comprises a first portion (3) having a first and a second end (figure 2), the first portion extending a first direction along a third side (3) of the printed circuit board (20), the first end of the first portion being connected to the radio frequency circuitry (48) of the printed circuit board (20); a second portion (2) having a first and a second end, the first end of the second portion (2) being connected to the second end of the first portion (3), the second portion extending in a second direction from the third side (3) of the printed circuit board (20) towards a fourth side (4) thereof, which is opposite the third side (3); and a third portion (4) having a first and a second end (figure 2) of the second portion (2) and the second end of the third portion being connected to the ground plane (32) of the printed circuit board (20), the third portion (4) extending in the opposite direction of the first direction along the fourth side (4) of the printed circuit board (20).

Regarding claim 4, Johson discloses the printed circuit board (20) is a multi-layer printed circuit board (see figure 5) having one layer configured as a dedicated RF ground plane (32) that provides the ground plane of the antenna device (column 2, lines 45-49).

Regarding claim 5, Johson discloses in figure 1 that the ground plane extender (column 3, lines 60-65) is at least one battery cell (18), the at least one battery casing being positioned in the longitudinal extension of the ground plane (32) of the printed circuit board (figure 1).

Regarding claim 6, John discloses that the antenna loop (28) is positioned opposite a first or second surface of the printed circuit board (figure 1).

Regarding claim 7, Johson discloses that the conducting material of the antenna loop is metal (column 4, lines 50-56).

Regarding claim 8, Johson discloses in figure 2 that a U-shaped dielectric has the antenna loop etched into the dielectric (column 3, lines 35-48).

Regarding claim 9, Johson discloses that the antenna loop (28) is provided inside the printed circuit board (figure 1).

Regarding claim 11, Johson discloses in figures 1-2 and 5-6 a multi-layer printed circuit board (figure 5) comprising a radio frequency (RF) circuitry (48) and a ground plane (32) on the printed circuit board (20); an antenna device (12) connected to the printed circuit board (20), the antenna device comprising an antenna loop (28) of conducting material (column 2, lines 61-67) having first and second ends (figure 2 shown the first and second connects) connected to the radio frequency circuitry and the ground plane (32) of the printed circuit board (20), respectively, the antenna loop (28) being positioned opposite the ground plane (32); and a aground plane extender (figure 2 in page 2 shown the ground extender) positioned at a first side of the printed circuit board (20) and in a longitudinal extension (figure 2) of the ground plane (32).

Regarding claim 12, Johson discloses in figures 1 and 5 a portable communication device comprising a printed circuit board (20) comprising a radio frequency circuitry (48) and a ground plane (32); an antenna device (12) connected to the printed circuit board (20), the antenna device comprising antenna loop (28) of conducting material (column 2, lines 61-67) having first and second ends (figure 2 shown the first and second connectors) connected to the radio frequency circuitry (48) and the ground plane (32) of the printed circuit board (20), respectively, the antenna loop (28) being positioned opposite the ground plane (figure 2); and a ground plane extender (figure 2 in page 2 shown the ground extender) positioned at a first side of the printed circuit board (20) and in a longitudinal extension of the ground plane (figure 2, 32).

Regarding claim 13, Johson discloses that the portable communication device is a head set (column 1, lines 15-19).

Regarding claim 14, Johson discloses that the ground plane extender is a battery casing (figure 1, element [18]).

Regarding claim 15, Johson discloses that a planar portion (on first side of the PCB) configured to contact the radio frequency (RF) circuitry (48) and the ground plane (32) of the printed circuit board (figure 2).

Regarding claim 16, Johson discloses that the antenna loop (28) are directly connected to the radio frequency (RF) circuitry (48) and the ground plane (32) of the printed circuit board (figure 2).

Allowable Subject Matter

4. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or suggest the following limitations:

An antenna device for a portable device, the antenna device comprising the antenna device further comprises a bezel connected to the printed circuit board that extends from the third side of the printed circuit board towards the fourth side of the printed circuit board, and/or bezel flanges connected to the ground plane and extending along the third and fourth sides of the printed circuit board as claimed in claim 10.

Response to Arguments

6. Applicant's arguments filed September 22, 2006 have been fully considered but they are not persuasive.

In response to Applicant's argument that Johson does not teach "the loop antenna (28) is not connected to the ground plane (32) and a ground plane extender positioned at a first side of the PCB; and in a longitudinal extension of the ground plane", Examiner respectfully disagrees.

Johson discloses in figures 1-2 the loop antenna (28) is directly connected to the PCB (20) via the coax cable (48) and the PCB (20) associated to connect to the ground plane (32) (column 3, lines 60-65 indicated that the ground plane [32] of the antenna is

illustrated as a portion of the PCB [20]); and a ground plane extender (figure 2 in page of the action shown clearly a ground plane extender in the first, third and fourth sides of the PCB). Moreover, the Applicant does not show the differences between a ground plane and a ground extender in the claimed limitations.

Since Johson does show all claimed structure of claimed limitations as claimed in claims 1, 11, and 12, the 102 rejections are proper.

Citation of Relevant Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ali (U.S. 6,184,836 B1) discloses a dual band antenna having mirror image meandering segments and wireless communicators incorporating same.

King et al. (U.S. 2005/0275591 A1) discloses a grounded antenna for a wireless communication device and method.

Inquiry

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung X. Le whose telephone number is 571-272-6010. The examiner can normally be reached on 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan can be reached on 571-272-1834740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner
Tung Le
AU 2821

Hoanganh Le
Primary Examiner